

**State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

**MONITORING AND REPORTING PROGRAM No. CI-5675
FOR
CITY OF LOS ANGELES
(Los Angeles-Glendale Water Reclamation Plant)**

I. MONITORING AND REPORTING REQUIREMENTS

- A. The Discharger shall implement this monitoring program on the effective date of this Order. All monthly monitoring reports shall be submitted by the first day of the second month following each monthly sampling period, addressed to the Regional Board, Attention: Data and Information Management Unit. The first monitoring report under this Program is due by September 1, 1998, and will cover the monitoring period of July 1998.
- B. Quarterly monitoring shall be performed during the months of February, May, August, and November. Semi-annual monitoring shall be performed during the months of February and August. Annual monitoring shall be performed during the month of February.
- C. Laboratory analyses: all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer. A copy of the laboratory certification shall be provided each time a new and/or renewal is obtained from ELAP.

The analyses shall specify the USEPA analytical method used and its Method Detection Limit (MDL). For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported with an actual numerical value or "non-detected (ND)" with the MDL indicated for the analytical method used. The maximum allowed MDLs are those published by the USEPA (MDLs for priority pollutants are listed in Attachment 1). In addition, the detection limits employed for effluent analyses shall be lower than the permit limits established for a given parameter, unless the Discharger can demonstrate that a particular detection limit is not attainable and obtains approval for a higher detection limit from the Executive Officer.

- D. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR Part 136.3. All Quality Assurance/Quality Control (QA/QC) items must be run on the same dates when the samples were actually analyzed. The Discharger shall make available for inspection and/or submit the QA/QC documentation upon request by Regional Board staff.

- E. By April 1 of each year, the Discharger shall submit an annual report containing a discussion of the previous year's effluent and receiving water monitoring data, as well as graphical and tabular summaries of the data. The data shall be submitted to the Regional Board on hard copy and on 3 1/2" computer diskette following the Regional Board's format. In addition, the Discharger shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharge into full compliance with waste discharge requirements.
- F. The Discharger shall inform the Regional Board well in advance of any construction activity proposed that can potentially affect compliance with applicable requirements.
- G. Monitoring frequencies may be adjusted to a less frequent basis and sampling constituents dropped by the Executive Officer if such is requested by the Discharger and backed by statistical trends of data submitted.

II. INFLUENT MONITORING REQUIREMENTS

(Footnotes on pages T-10, T-11 and T-12).

- A. Influent monitoring is required to:
 - 1. determine compliance with NPDES permit conditions and water quality standards,
 - 2. assess treatment plant performance, and
 - 3. assess the effectiveness of the pretreatment program.
- B. Sampling stations shall be established at each point of inflow to the sewage treatment plant and shall be located upstream of any in-plant return flows and where representative samples of the influent can be obtained. The date and time of sampling shall be reported with the analytical results.
- C. Samples for influent BOD₅ 20°C and suspended solids shall be obtained on the same day that the effluent BOD₅ 20°C and suspended solids samples are obtained to demonstrate percent removal. Similarly, sampling of other constituents shall also be coordinated with effluent sampling.
- D. The following shall constitute the influent monitoring program:

<u>Constituents</u>	Type of <u>Units</u>	<u>Sample</u>	Minimum Frequency <u>of Analysis</u>
Flow pH	mgd pH units	recorder/totalizer grab	continuous ^[1] daily

Suspended solids	mg/L	24-hour composite	weekly
<u>Constituents</u>	<u>Type of Units</u>	<u>Sample</u>	<u>Minimum Frequency of Analysis</u>
BOD ₅ 20°C	mg/L	24-hour composite	weekly
Phenols			
chlorinated	µg/L	24-hour composite	semiannually
non-chlorinated	µg/L	grab	semiannually
Cyanide	µg/L	grab	semiannually
Volatile organic compounds	µg/L	grab	semiannually
Remaining EPA			
priority pollutants	µg/L	24-hour composite	semiannually
(excluding asbestos, Attachment 1)			

III. EFFLUENT MONITORING REQUIREMENTS

(Footnotes on pages T-10, T-11 and T-12).

A. Effluent monitoring is required to:

1. determine compliance with NPDES permit conditions,
 2. identify operational problems and improve plant performance, and
 3. provide information on wastewater characteristics and flows for use in interpreting water quality and biological data.
- B. An effluent sampling station shall be established for each point of discharge and shall be located downstream of any inplant return flows where representative samples of the effluent (after receiving all treatment) can be obtained. Effluent samples may be obtained at a single station provided that such station is representative of the effluent quality at all discharge points. Any changes in sampling station locations shall be approved by the Executive Officer.

C. The following shall constitute the effluent monitoring program:

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Minimum Frequency of Analysis</u>
Total waste flow	mgd	recorder	continuous ^[1]
Turbidity ^[2]	NTU	recorder	continuous ^[1]
Total residual chlorine	mg/L	recorder	continuous ^[1]
Total coliform ^[2]	MPN/100 ml	grab	daily

Temperature	°F	grab	daily
pH	pH units	grab	daily
			Minimum Frequency of Analysis
<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	
Settleable solids	ml/L	grab	daily
Suspended solids	mg/L	24-hour composite	daily
BOD ₅ 20°C	mg/L	24-hour composite	weekly
Oil and grease	mg/L grab		weekly
Dissolved oxygen	mg/L	grab	monthly
Ammonia nitrogen	mg/L	grab	monthly
Nitrate nitrogen	mg/L	grab	monthly
Nitrite nitrogen ^[3]	mg/L	grab	monthly
Nitrate+Nitrite nitrogen	mg/L grab		monthly
Organic nitrogen	mg/L	grab	monthly
Total nitrogen	mg/L grab		monthly
Total dissolved solids	mg/L	24-hour composite	monthly
Sulfate	mg/L	24-hour composite	monthly
Chloride	mg/L	24-hour composite	monthly
Phosphate (as P)	mg/L	24-hour composite	monthly
Fluoride	mg/L	24-hour composite	monthly
Detergents (as MBAS) ^[4]	mg/L	24-hour composite	monthly
Chronic toxicity ^[5]	TU _c	24-hour composite	monthly
Iron	µg/L	24-hour composite	monthly
Arsenic	µg/L	24-hour composite	monthly
Cadmium	µg/L	24-hour composite	monthly
Chromium VI ^[6]	µg/L	24-hour composite	monthly
Copper	µg/L	24-hour composite	monthly
Lead	µg/L	24-hour composite	monthly
Mercury	µg/L	24-hour composite	monthly
Nickel	µg/L	24-hour composite	monthly
Selenium	µg/L	24-hour composite	monthly
Silver	µg/L	24-hour composite	monthly
Zinc	µg/L	24-hour composite	monthly
Total hardness	µg/L	24-hour composite	monthly
Cyanide	µg/L	grab	monthly
Boron	mg/L	24-hour composite	quarterly
Barium	µg/L	24-hour composite	quarterly
DDT ^[7]	µg/L	24-hour composite	quarterly

Endosulfan-alpha	µg/L	24-hour composite	quarterly
Endosulfan-beta	µg/L	24-hour composite	quarterly
Endrin	µg/L	24-hour composite	quarterly
Lindane	µg/L	24-hour composite	quarterly
			Minimum Frequency of Analysis
<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	
Bis (2-ethylhexyl) phthalate	µg/L	24-hour composite	quarterly ^[8]
PAHs ^[9]	µg/L	24-hour composite	quarterly
Phenols			
chlorinated	µg/L	24-hour composite	quarterly
non-chlorinated	µg/L	grab	quarterly
Benzene	µg/L	grab	quarterly
1,2-dichloroethane	µg/L	grab	quarterly
Chloroform	µg/L	grab	quarterly
Ethylbenzene	µg/L	grab	quarterly
Tetrachloroethylene	µg/L	grab	quarterly
Other volatile organic compounds	µg/L	grab	quarterly
Methylene chloride	µg/L	grab	quarterly ^[8]
Halomethanes	µg/L	grab	quarterly
Acute toxicity ^[10]	TU _a	grab	quarterly
Aluminum	µg/L	24-hour composite	semiannually
2,4-D	µg/L	24-hour composite	semiannually
Methoxychlor	µg/L	24-hour composite	semiannually
2,4-D	µg/L	24-hour composite	semiannually
2,4,5-TP (Silvex)	µg/L	24-hour composite	semiannually
MTBE	µg/L	grab	semiannually
Toxaphene	µg/L	24-hour composite	semiannually
PCBs ^[11]	µg/L	24-hour composite	semiannually
Radioactivity ^[12]	pCi/L	24-hour composite	semiannually
Pesticides ^[13]	µg/L	24-hour composite	semiannually
Remaining EPA priority pollutants (excluding asbestos, Attachment 1)	µg/L	24-hour composite	semiannually

IV. WATERSHED-WIDE MONITORING PROGRAM

- A. Pursuant to the Code of Federal Regulations [40 CFR § 122.41 (j) and § 122.48 (b)], the monitoring program for a discharger receiving a NPDES permit must determine compliance with NPDES permit terms and conditions, and demonstrate that State water quality standards are met.
- B. Since compliance monitoring focuses on the effects of the point source discharge, it is not designed to assess impacts from other sources of pollution (e.g. non-point source runoff, aerial fallout) nor to evaluate the current status of important ecological resources on a regional basis.
- C. The goals of the Watershed-wide Monitoring Program for the upper Los Angeles River Watershed are: to determine compliance with receiving water limits, to monitor trends in surface water quality, to assure protection of beneficial uses, and to provide data for modeling contaminants of concern.
- D. The Discharger shall participate in the implementation of the Watershed-wide Monitoring Program. The City's responsibilities under the Watershed-wide Monitoring Program are described in the Receiving Water Monitoring Requirements section. To achieve the goals of the Watershed-wide Monitoring Program, revisions to the Receiving Water Monitoring Requirements will be made under the direction of USEPA and the Regional Board.
- V. RECEIVING WATER MONITORING REQUIREMENTS
(Footnotes on pages T-10, T-11 and T-12).

- A. Receiving water stations shall be established at the following locations (See Figure T-1):

<u>Station Number</u>	<u>Los Angeles River Stations</u>
R-4	Los Angeles River (214 feet upstream from the discharge point)
R-5	Los Angeles River (850 feet downstream from the discharge point)
R-7	Los Angeles River at Los Feliz Blvd. (upstream from the Los Feliz Blvd. bridge)

To obtain representative samples, at each station, samples may be collected within 50 feet upstream or downstream from the designated point.

Only stations R-4 and R-5 will be used to determine compliance with the receiving water limitations.

- B. The following analyses, which constitute the receiving water monitoring program, shall be conducted on grab samples obtained at Stations R-4, R-5, and R-7:

<u>Constituent</u>	<u>Units</u>	<u>Minimum Frequency of Analysis</u>
pH	pH units	weekly
Temperature	°F	weekly
Dissolved oxygen	mg/L	weekly
Total residual chlorine	mg/L	weekly
Total coliform	MPN/100 ml	weekly
Fecal coliform	MPN/100 ml	weekly
Turbidity	NTU	quarterly
Total dissolved solids	mg/L	quarterly
Conductivity	µmhos/cm	quarterly
Chloride	mg/L	quarterly
Sulfate	mg/L	quarterly
Nitrate nitrogen	mg/L	quarterly
Nitrite nitrogen	mg/L	quarterly
Ammonia nitrogen	mg/L	quarterly
Organic nitrogen	mg/L	quarterly
Total nitrogen	mg/L	quarterly
Total phosphate (as P)	mg/L	quarterly
Detergents (as MBAS) ^[4]	mg/L	quarterly
BOD ₅ 20°C	mg/L	quarterly
Total organic carbon	mg/L	quarterly
Oil and grease	mg/L	quarterly
MTBE	mg/L	quarterly
Chronic toxicity ^[5]	TU _c	quarterly
Acute toxicity ^[10]	TU _a	quarterly
Arsenic	µg/L	quarterly
Cadmium	µg/L	quarterly
Total chromium	µg/L	quarterly
Copper	µg/L	quarterly
Lead	µg/L	quarterly
Mercury	µg/L	quarterly
Nickel	µg/L	quarterly

Zinc		µg/L		quarterly
Total hardness	µg/L		quarterly	
Cyanide		µg/L		quarterly
Phenolic compounds		µg/L		semiannually
Aldrin and dieldrin		µg/L		semiannually
<u>Constituent</u>		<u>Units</u>		<u>Minimum Frequency of Analysis</u>
Endrin		µg/L		semiannually
HCH		µg/L		semiannually
Chlordane		µg/L		semiannually
Lindane		µg/L		semiannually
Toxaphene		µg/L		semiannually
PAHs ^[9]	µg/L		semiannually	

- C. The following analyses, which are part of the receiving water monitoring program, shall be conducted on grab samples of sediment obtained at Stations R-4, R-5, and R-7:

<u>Constituent</u>		<u>Units</u>		<u>Minimum Frequency of Analysis</u>
DDTs ^[7]	µg/L		semiannually	
PCBs ^[11]		µg/L		semiannually

- D. At the same time the receiving waters are sampled, observations shall be made in the reach bounded by Stations Nos. R-4 and R-5, and around R-7, and a log shall be maintained thereof. Attention shall be given to the presence and extent, or absence of:

- i. oil, grease, scum, or solids of waste origin
- ii. sludge deposits
- iii. discoloration of surface waters
- iv. algal blooms
- v. odors
- vi. foam
- vii. any unusual occurrences

The following shall also be noted in the log:

- i. date and time of observation
- ii. weather conditions
- iii. flow measurement

- iv. exact sampling location
- v. users of water in the river (i.e. homeless, people washing in the river, etc.)
- vi. non-contact users (i.e. bikers, joggers, etc.)
- vii. wildlife (i.e. birds, mammals, reptiles, estimated amount of vegetation)

Copies of the above log shall be submitted with the monitoring reports.

- E. At the same time the receiving waters are sampled, observations shall be made of the flow, if any, emanating from the storm drain that is tied into the final effluent surge chamber, and a log shall be maintained thereof. Attention shall be given to the presence and extent, or absence of:
- i. oil, grease, scum, or solids of waste origin
 - ii. colored or odorous materials
 - iii. any unusual waste like garbage, floating solids, foam, etc.

An estimate of the flow rate shall also be reported.

Copies of the above log shall be submitted with the monitoring reports.

- F. In the event of a spill or bypass of raw or partially treated sewage from the Los Angeles-Glendale Plant into the Los Angeles River system, total and fecal coliform analyses shall be made on grab samples collected at all potentially affected downstream receiving water stations and at least one unaffected upstream receiving water station.

Coliform samples shall be collected at each station on the date of the spill or bypass, and daily on each of the following four days.

- G. Receiving water samples shall not be taken during or within 48 hours following the flow of rainwater runoff into the Los Angeles River system.
- H. Receiving water sampling and observations need not be performed during period of no discharge to surface waters.
- I. Storm drain flow observations need not be performed during periods of no discharge to surface waters.

VI. COMPLIANCE WITH 7-DAY, MONTHLY AVERAGE LIMITS AND DAILY MAXIMUM LIMITS

- A. For constituents where both monthly average and maximum limits are specified but where the monitoring frequency is less than four times a month, the following procedure shall apply: Initially, not later than the first week of the second month after the adoption of this Order, a

representative sample shall be obtained of each waste discharge at least once per week for at least four consecutive weeks and until compliance with the monthly average limit has been demonstrated. Once compliance has been demonstrated, sampling and analyses shall revert to the frequency specified.

- B. For any weekly monitored constituent: if any result of a weekly analysis exceeds the 7-day average limit (or the monthly average limit if no 7-day limit is prescribed), the frequency of analysis shall be increased to daily within one week of knowledge of the test results. Daily testing shall continue for at least 7 consecutive days and until compliance with the 7-day average limit is demonstrated, after which the frequency shall revert to weekly.
- C. For any monthly monitored constituent: if any result of a monthly analysis exceeds the monthly average limit, the frequency of analysis shall be increased to weekly within one week of knowledge of the test result. Weekly testing shall continue for at least 4 consecutive weeks and until compliance with the monthly average limit is demonstrated, after which the frequency shall revert to monthly.

VII. FOOTNOTES TO INFLUENT, EFFLUENT, AND RECEIVING WATER MONITORING REQUIREMENTS

- [1] Where continuous monitoring of a constituent is required, the following shall be reported:

Total waste flow - Total daily flow and peak daily flow (24-hour basis);

Total residual chlorine - maximum daily value (24-hour basis);

Turbidity - Maximum daily value, total amount of time each day that turbidity exceeded five (5) turbidity units, the flow-proportioned average daily value.

- [2] Coliform and turbidity samples shall be obtained at some point in the treatment process at a time when wastewater flow and characteristics are most demanding on the treatment facilities, filtration, and disinfection procedures.
- [3] During the pilot test studies and implementation phases of nitrogen controls, the monitoring frequency of nitrite in the effluent should be increased to weekly. If the nitrite concentration in the effluent exceeds 1.3 mg/l during the pilot test studies and implementation phases, the monitoring frequency of nitrite in the receiving water stations should be also increased to weekly.
- [4] Methylene blue active substances.
- [5] Initial screening shall be conducted using a minimum of three test species with approved test protocols to

determine the most sensitive test organism for chronic toxicity testing. The initial screening process shall be conducted for a minimum of three months, but not to exceed five months, to account for potential variability of the effluent/receiving water. If possible, the test species used during the screening process should include a fish, an invertebrate and aquatic plant.

Two screening processes should be conducted, one for the effluent chronic toxicity testing and one for the receiving waters chronic toxicity testing (water from station R-5 should be used for the screening process). If the results from the first series of screening tests reveal that the most-sensitive organism in the receiving water is the same as the effluent, no further screening tests are required for the receiving waters. However, the complete initial screening process should be conducted for the effluent.

After the initial screening period, chronic toxicity testing may be limited to the most sensitive test species. However, the initial screening process shall be repeated annually, with a minimum of three test species with approved test protocols, to ensure use of the most sensitive species for chronic toxicity testing.

Dilution and control waters for the effluent should be obtained from an unaffected area of the receiving waters. Standard dilution water may be used if the above source exhibits toxicity greater than 1.0 TU_c.

The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each batch of bioassay tests and reported with the test results.

Chronic toxicity shall be expressed and reported as toxic units, where:

$$TU_c = 100/NOEC$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent/receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test.

Except with prior approval from this Regional Board (Executive Officer) or USEPA, ammonia shall not be removed from the bioassay samples. The wastewater used for the toxicity test shall be analyzed for ammonia, and the result, along with an interpretation, shall be submitted with the toxicity data. If the test result is greater than the permit limitation, parallel tests of 100% effluent without ammonia removal and 100% effluent with ammonia removed shall be conducted.

If chronic toxicity in the effluent is higher than 1.0 TU_c during three consecutive months, the City shall conduct a toxicity identification evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the City shall take all reasonable steps to reduce toxicity in the effluent.

[6] The discharger has the option to meet the hexavalent chromium limitations with a total chromium analysis. However, if the total chromium level exceeds the hexavalent chromium limitation, it will be considered a violation unless an analysis has been made for hexavalent chromium in replicate sample and the result shows within the hexavalent chromium limits.

[7] DDT shall mean the sum of the p,p' and o,p' isomers of DDT, DDD, and DDE.

- [8] Monitoring shall be on a monthly basis while the City is under an interim limit; or until such time that the Executive Officer has determined that sufficient data have been collected to warrant reduction in monitoring frequency.
- [9] PAHs (polynuclear, aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, ideno[1,2,3-cd]pyrene, phenanthrene, and pyrene.
- [10] By methods specified in "Methods for Measuring the Acute Toxicity of Effluent to Freshwater and Marine Organisms" (September 1991, EPA/600/4-90/027). Submission of bioassay results should include the information noted on pages 70 through 73 of the "Methods" where appropriate. The fathead minnow (*Pimephales promelas*) shall be used as the test species.

In lieu of conducting the standard acute toxicity test with fathead minnow, the Discharger may elect to report the results from the first 48 hours to the chronic toxicity test as acute toxicity test results.

Except with prior approval from this Regional Board (Executive Officer) or USEPA, ammonia shall not be removed from the bioassay samples. The wastewater used for the toxicity test shall be analyzed for ammonia, and the result, along with an interpretation, shall be submitted with the toxicity data. If the test result is greater than the permit limitation, parallel tests of 100% effluent without ammonia removal and 100% effluent with ammonia removed shall be conducted.

If the survival rates are lower than the effluent permit limit, the frequency of monitoring should be increased to monthly for at least three months after a permit limit violation.

- [11] PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
- [12] If gross α activity exceeds 5 pCi/L in any sample, measurement of Ra^{226} shall be made; if Ra^{226} exceeds 3 pCi/L, measurement of Ra^{228} shall be made. If gross α activity exceeds 50 pCi/L in any sample, an analysis of the sample shall be performed to identify the major constituents present and compliance with Title 17, Section 30269 shall also be demonstrated.
- [13] Pesticides are, for purposes of this Order, those six constituents referred to in 40 CFR Part 125.58 (m) (demeton, guthion, malathion, mirex, methoxychlor, and parathion).

VIII. HAULING REPORT

A monthly report shall be provided, noting the moisture content, weight, and volume of screenings, sludges, grit, and other solids removed from wastewater. The point(s) from which these wastes were obtained and the disposal sites to which waste solids were transported should be specified in the monthly reports.

This requirement does not cover those wastes that are routinely returned to the North Outfall

Sewer Line for downstream treatment at Hyperion Treatment Plant.

IX. STORM WATER MONITORING AND REPORTING

The City shall implement the Storm Water Monitoring Program and Reporting Requirements of the State Water Resources Control Board's General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities (Order No. 97-03-DWQ) (Attachment 3).

Ordered by:

DENNIS DICKERSON
Executive Officer
Date: June 15, 1998